

REMARKS

Claims 1-13 are pending in the above-identified application. Claims 1-13 were rejected. With this amendment, claim 1 was amended. Accordingly, claims 1-13 are at issue in the above-identified application.

35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1, 3, 4, 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Goodenough et al.* (U.S. Patent No. 5,910,382) in view of JP 2646657. Claims 1-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Barker et al.* (U.S. 2003/0129492) in view of JP 2646657. Claims 2 and 5-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Goodenough et al.* in view of JP 2646657 as applied to claim 1 above, and further in view of *Barker et al.* (U.S. Patent No. 5,871,866). Applicants respectfully traverse these rejections. Withdrawal of these rejections are respectfully requested.

Claim 1 recites a non-aqueous electrolyte secondary cell comprising a cathode employing a cathode active material containing a compound of the olivine structure having the formula $\text{Li}_x\text{Fe}_{1-y}\text{M}_y\text{PO}_4$, wherein M is at least one selected from the group consisting of Zn, Al, Ga, Mg, and, with $0.05 \leq x \leq 1.2$ and $0 \leq y \leq 0.8$, and *wherein the cathode has a width*, an anode *having a width*, and an electrolyte solution, said cathode, anode and the electrolyte solution being housed in a container, wherein the amount of said electrolyte solution is adjusted to provide a void in said container of not less than 0.14 cc and not larger than 0.21 cc per 1Ah of the cell capacity, and *wherein a difference t between the width of the anode and the width of the cathode is 0.05 mm to 0.2 mm*. Neither *Goodenough et al.* or *Barker et al.*, either alone or in combination, teach or disclose a non-aqueous electrolyte secondary cell having a cathode and an anode wherein a difference t between the width of the anode and the width of the cathode is *0.05 mm to 0.2 mm*.

In the present invention, if the width at one end of the anode is larger by 2 mm or more

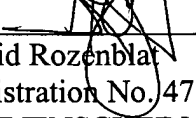
than that at the corresponding end of the cathode, the amount of the anode active material not contributing to the cell reaction is increased to lower the energy density of the cell. It is therefore desirable that the anode is broader in width than the cathode, so that a difference t in the width-wise dimension on one side will be in a range of 0.05mm to 0.2mm. Non-aqueous electrolyte secondary cells with olivine type cathode active material, such as the one in the present invention, need less void than typical cells in order to maintain a high volumetric energy density. It is therefore, extremely important that the void of these cells fall within the narrow range and that the difference t between the width of the anode and the width of the cathode also falls within a narrow range. The suitable range for a non-aqueous electrolyte secondary cell with an olivine type cathode active material is quite different from that for a cell with another type of cathode active material.

The cited art does not specifically disclose an amount of electrolyte solution in the container adjusted to provide a void in the container of not less than 0.14 cc and not larger than 0.21 cc, nor does the cited art disclose a cell having a difference t between the width of an anode and the width of a cathode of 0.05 mm to 0.2 mm. While the Examiner maintains that it would have been obvious to one of ordinary skill at the time to adjust the void area of the cell in order to allow for a proper amount of space based on the amount of gas released by the electrode material, Applicants maintain that it would not have been obvious. For example, Applicants maintain that the type of cell claimed by Applicants in claim 1 is a specific type of non-aqueous electrolyte secondary cell of the olivine type and it is quite different from that which is shown in the cited art, and therefore, it would not have been obvious in light of the cited art to determine the appropriate void or difference t in the width for the cell. Withdrawal of these rejections are respectfully requested.

In view of the foregoing, Applicants submits that the application is in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

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